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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/937,468	09/25/2001	Timothy Heighway	PD990017	9487

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EXAMINER

LEE, CHRISTOPHER E

ART UNIT PAPER NUMBER

2112

DATE MAILED: 11/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<p align="center">Office Action Summary</p>	Application No. 09/937,468	Applicant(s) HEIGHWAY ET AL.	
	Examiner Christopher E. Lee	Art Unit 2112	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 and 21-23 is/are rejected.
- 7) ☒ Claim(s) 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37.CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
6) <input type="checkbox"/> Other: _____ |
|---|--|

DETAILED ACTION

Receipt Acknowledgement

1. Receipt is acknowledged of the Amendment filed on 23rd of August 2004 (hereinafter the Response). Claims 1-8 have been amended; no claim has been canceled; and claims 9-23 have been newly added since the Non-Final Office Action was mailed on 18th of March 2004. Currently, claims 1-23 are pending in this application.

Claim Objections

2. The Amendment document in the Response is considered non-compliant because it has failed to meet the requirements of 37 CFR 1.121, as amended on June 30, 2003 (*See 68 Fed. Reg. 38611*, Jun. 30, 2003). In fact, the claim statuses of the claims 1-8 are not (Previously presented), but (Currently Amended), respectively. See MPEP 714 [R-2] and 37 CFR 1.121(c).

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claim 1 recites the limitation "the data format" in line 3. There is insufficient antecedent basis for this limitation in the claim. Therefore, the term "the data format" could be considered as --a data format-- since it is not clearly defined in the claims.

The claim 1 recites the limitation "the bus packet" in line 4. There is insufficient antecedent basis for this limitation in the claim. Therefore, the term "the bus packet" could be considered as --the data packet-- since it is not clearly defined in the claims.

The claim 1 recites the limitation "the useful data" in line 13. There is insufficient antecedent basis for this limitation in the claim. Therefore, the term "the useful data" could be considered as --an useful data-- since it is not clearly defined in the claims.

The claim 2 recites the limitation "the completion of said data packet" in line 13. There is insufficient antecedent basis for this limitation in the claim. Therefore, the term "the completion of said data packet" could be considered as --a completion of said data packet-- since it is not clearly defined in the claims.

The claims 2 and 8 recite the limitation "the next free location" in lines 12-13 of the claim 2, and in line 8 of the claim 8, respectively. There is insufficient antecedent basis for this limitation in the claim. Therefore, the term "the next free location" could be considered as --a next free location-- since it is not clearly defined in the claims, respectively.

The claims 4 and 15 recite the limitation "the same number of data blocks" in line 3 of the claim 4, and in line 2 of the claim 15, respectively. There is insufficient antecedent basis for this limitation in the claim. Therefore, the term "the same number of data blocks" could be considered as --same number of data blocks-- since it is not clearly defined in the claims, respectively.

The claim 5 recites the limitation "the transmission of MPEG2 video data" in line 4. There is insufficient antecedent basis for this limitation in the claim. Therefore, the term "the transmission of MPEG2 video data" could be considered as --a transmission of MPEG2 video data-- since it is not clearly defined in the claims.

The claim 6 recites the limitation "The apparatus" in line 1. There is insufficient antecedent basis for this limitation in the claim. Therefore, the term "The apparatus" could be considered as --An apparatus-- since it is not clearly defined in the claims.

The claim 8 recites the limitation "the counter reading" in line 4. There is insufficient antecedent basis for this limitation in the claim. Therefore, the term "the counter reading" could be considered as --a counter reading-- since it is not clearly defined in the claims.

The claim 8 recites the limitation "the beginning of the next free location" in line 8. There is insufficient antecedent basis for this limitation in the claim. Therefore, the term "the beginning of the next free location" could be considered as --a beginning of the next free location-- since it is not clearly defined in the claims.

The claim 9 recites the limitation "the form of data blocks" in line 5. There is insufficient antecedent basis for this limitation in the claim. Therefore, the term "the form of data blocks" could be considered as --a form of data blocks-- since it is not clearly defined in the claims.

The claim 14 recites the limitation "the first data block" in line 3. There is insufficient antecedent basis for this limitation in the claim. Therefore, the term "the first data block" could be considered as --a first data block-- since it is not clearly defined in the claims.

Claims 2-5 are dependent claims of the claim 1.

Claims 7 and 8 are dependent claims of the claim 6.

Claims 10-17 are dependent claims of the claim 9.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply

when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6. Claims 1, 4, 6, 7, 9-11, 15, 18, 19, 21 and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Bunting et al. [US 5,796,743 A; hereinafter Bunting].

Referring to claim 1, Bunting discloses a method for assembling data packets (See col. 1, lines 5-10) for isochronous data transmission (See col. 2, lines 56-67; i.e., wherein in fact that input processor unit includes a signal delay network for processing the picture start code-word and the PAP so that the PAF occurs in the code word clock cycle immediately before the I frame picture start codeword, and the delay network assures that the output signals applied to packed word controller unit and data packer unit exhibit proper time synchronism inherently anticipates that said data packets are for isochronous data transmission) via a data bus (i.e., via Transmission Channel in Fig. 19), a data format for said isochronous data transmission being defined in an isochronous data format header of said data packet (See col. 3, lines 49-57; i.e., wherein in fact that each header contains information related to the data in the data packet with which the header is associated, and the header information aids data assembly and synchronization at a receiver, and includes information such as service type, frame type, frame number and slice number inherently anticipates that a data format for said isochronous data transmission is defined in an isochronous data format header of said data packet), comprising the steps of: writing said isochronous data format header to a special register (i.e., Output Register 78 of Fig. 17) and to a buffer memory (i.e., Header FIFO 70 of Fig. 17) for said data packets (i.e., in fact, Header is written to Header FIFO 70, and to Output Register 78 in the form of being combined with Data in Fig. 17) when said isochronous data transmission is set up in a data transmitting device (i.e., setting up in a video signal encoder; See col. 2, lines 4-7, and 44+); and attaching (i.e., combining) an useful data of said data packet (i.e., packed data

words) to said isochronous data format header (i.e., Header) in said buffer memory (i.e., combining Data from Data FIFO 72 with Header being in Header FIFO 70 in Fig. 17; See col. 3, lines 30-48).

Referring to claim 4, Bunting teaches selecting same number of data blocks per data packet (See col. 2, lines 44-48; i.e., wherein in fact that 960 bits per data packets anticipates selecting same number of data blocks per data packet).

Referring to claim 6, Bunting discloses an apparatus (i.e., video signal encoder in Fig. 1) for carrying out said method according to claim 1 (See claim 1 rejection), having a buffer memory for data packets (i.e., Data FIFO 72 of Fig. 17), having a special register (i.e., Output Register 78 of Fig. 17) for said isochronous data format header (i.e., Header) of one of said data packets (i.e., Output Register 78 including said Header in the form of being combined with Data in Fig. 17), and having initialization means (i.e., FIFO State Controller 74 and Header/Data Multiplexer 76 in Fig. 17), which copy said isochronous data format header for a first data packet of said isochronous data transmission to said special register for said isochronous data format header and said buffer memory (See col. 8, lines 19+; i.e., copying Header for data packet word of isochronous data transmission to Output Register for combining said Header and said data packet word in Data FIFO).

Referring to claim 7, Bunting teaches said isochronous data format header (i.e., Header) for said first data packet is prescribed for said initialization means (i.e., said Header is generated by Header Generator 18 of Fig 1 for said FIFO State Controller 74 and Header/Data Multiplexer 76 in Fig. 17) by an application process (i.e., by digital television signal processing; See Abstract).

Referring to claim 9, Bunting discloses a method for assembling data packets for data transmission (See col. 1, lines 5-10) via a data bus (i.e., via Transmission Channel in Fig. 19), said method comprising: writing a data header (i.e., Header) to a special register (i.e., Output Register 78 of Fig. 17) and to a selected portion of a buffer memory for said data packets (i.e., Header FIFO 70 of Fig. 17); and appending (i.e., combining) useful data in a form of data blocks (i.e., packed data words) to said

data header (i.e., Header) located in said buffer memory (i.e., combining Data from Data FIFO 72 with Header being in Header FIFO 70 in Fig. 17; See col. 3, lines 30-48).

Referring to claim 15, Bunting teaches selecting same number of data blocks per data packet (See col. 2, lines 44-48; i.e., wherein in fact that 960 bits per data packets anticipates selecting same number of data blocks per data packet).

Referring to claim 18, Bunting discloses an apparatus (i.e., video signal encoder in Fig. 1) for assembling data packets for data transmission (See col. 1, lines 5-10) via a data bus (i.e., via Transmission Channel in Fig. 19), comprising: a buffer memory (i.e., Header FIFO 70 and Data FIFO 72 in Fig. 17) for said assembly of data packets (i.e., outputting combined Header and Data; See col. 8, lines 28-33); a special register (i.e., Output Register 78 of Fig. 17) for storing a data header (i.e., Header) of a first one of said data packets (i.e., Output Register 78 including said Header in the form of being combined with Data in Fig. 17); and an initialization means (i.e., FIFO State Controller 74 and Header/Data Multiplexer 76 in Fig. 17) for copying said data header for said first data packet to said special register and to said buffer memory (See col. 8, lines 19+; i.e., copying Header for data packet word of isochronous data transmission to Output Register for combining said Header and said data packet word in Data FIFO).

Referring to claim 19, Bunting teaches said data header (i.e., Header) for said first data packet is prescribed by an application process (i.e., said Header is generated by Header Generator 18 of Fig 1 for said FIFO State Controller 74 and Header/Data Multiplexer 76 in Fig. 17 of digital television signal processing; See Abstract).

Referring to claims 10, 11, 21 and 22, Bunting teaches said data packets are isochronous data packets, and said data bus is an isochronous data bus (See col. 2, lines 56-67; i.e., wherein in fact that input processor unit includes a signal delay network for processing the picture start code-word and the PAP so that the PAF occurs in the code word clock cycle immediately before the I frame picture start codeword, and the delay network assures that the output signals applied to packed word controller unit

and data packer unit exhibit proper time synchronism inherently anticipates that said data packets are isochronous data packets, and said data bus is an isochronous data bus).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 5, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bunting [US 5,796,743 A] as applied claims 1, 4, 6, 7, 9-11, 15, 18, 19, 21 and 22 above, and further in view of what was well known in the art, as exemplified by Takayama [US 5,991,842 A].

Referring to claims 5, 16 and 17, Bunting discloses all the limitations of the claims 5, 16 and 17, respectively, except that does not teach dividing said data to be transmitted into data source packets, wherein, in particular for said transmission of MPEG2 video data, a data source packet is composed from 8 data blocks.

The Examiner takes Official Notice that dividing said data to be transmitted into data source packets, wherein, in particular for said transmission of MPEG2 video data, a data source packet is composed from

8 data blocks, is well known to one of ordinary skill in the art, as evidenced by Takayama (See col. 9, lines 33-44).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have applied said method step of dividing said data source packets into 8 data blocks, as disclosed by Takayama, to said method, as disclosed by Bunting, since it would have ensured a communications being performed by using said data bus (i.e. 1394 serial bus) at a predetermined communication cycle (See Takayama, Fig. 6 and col. 5, lines 24-31).

10. Claims 12 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bunting [US 5,796,743 A] as applied claims 1, 4, 6, 7, 9-11, 15, 18, 19, 21 and 22 above, and further in view of Sato et al. [US 6,259,694 B1; hereinafter Sato].

Referring to claims 12 and 23, Bunting discloses all the limitations of the claims 12 and 23, respectively, except that does not teach said data header comprising a comparison value for counting data blocks.

Sato discloses a method of enabling an error bit to be set simply without causing an increase in the size of signal processing circuit (See Abstract), wherein a data header (i.e., CIP Header in Fig. 14) comprising a comparison value for counting data blocks (i.e., DBC field in Fig. 14; See col. 10, lines 54-55).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included said comparison value for counting data blocks (i.e., DBC field), as disclosed by Sato, in said data header, as disclosed by Bunting, for the advantage of indicating discontinuity when it detects the discontinuity of the DBC (i.e., indicating packet loss; See Sato, col. 10, line 66 through col. 11, line 6).

Allowable Subject Matter

11. Claims 2, 3, 8, 13 and 14 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.
12. Claim 20 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
13. The following is a statement of reasons for the indication of allowable subject matter:

The limitations of claims 2, 8, 13 and 20 are respectively deemed allowable over the prior art of record as the prior art fails to teach or suggest that updating (transferring) said comparison value in said data header in said special register when said useful data in data blocks are written to said buffer memory, and copying said updated data header to said buffer memory at a next free location for a data packet in said buffer memory.

The claim 3 is a dependent claim of the claim 2, and the claim 14 is a dependent claim of the claim 13.

Response to Arguments

14. Applicants' Response/Amendment filed on 23rd of August 2004 does not have any arguments.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Crivellari et al. [US 6,091,726 A] disclose device and method for handling, assembling and transmission of data packets.

Yanagihara et al. [US 6,172,989 B1] disclose transmitting apparatus and method receiving apparatus and method.

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher E. Lee whose telephone number is 571-272-3637. The examiner can normally be reached on 9:30am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark H. Rinehart can be reached on 571-272-3632. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Christopher E. Lee
Examiner
Art Unit 2112

cel/ *cel*


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